

AMENDMENTS TO CLAIMS

Claim 1 (currently amended): A structural reinforcing member for reinforcing a hollow structural member comprising:

a plastic reinforcing member having on the surface thereof an expandable material that is substantially dry to the touch prior to activation;

wherein the surface of the reinforcing member is provided with at least one extension;

wherein the at least one extension is integrally molded with the carrier and of the same material as the carrier;

wherein the at least one extension, upon insertion of the reinforcing member within the hollow structural member, both opposes and approaches an internal surface of the hollow structural member; and

wherein the expandable material is located against the at least one extension such that the at least one extension locally guides the expansion of the expandable material toward the internal surface of the hollow structural member; and

wherein the at least one extension is selected from ribs, raised embossments or a part of a stamped area.

Claim 2 (original): A structural reinforcing member according to Claim 1 in which the exterior profile shape of the reinforcing member conforms substantially to the cross section of the hollow structural member.

Claim 3 (previously presented): A structural reinforcing member according to Claim 2 in which the size of the reinforcing member including the expandable material is such that there is a clearance not more than 1 cm between the outer surfaces of the reinforcing member and the internal surface of the hollow structural member.

Claim 4 (previously presented): A structural reinforcing member according to Claim 1 in which the reinforcing member is an injection molded plastic and has an internal structure that is selected from cellular, honeycomb or ribbed.

Claim 5 (canceled)

Claim 6 (original): A structural reinforcing member according to Claim 1 which the extensions are of increased thickness relative to adjoining sections of the reinforcing member.

Claim 7 (original): A structural reinforcing member according to Claim 1 provided with small lugs, which enable the structural reinforcing member to stand away from the interior walls of the hollow structural member.

Claim 8 (original): A structural reinforcing material according to Claim 3 in which the clearance is 2 to 10 mm.

Claim 9 (original): A structural reinforcing member according to Claim 1 in which the reinforcing member is made from filled polyamide.

Claim 10 (previously presented): A structural reinforcing member according to Claim 9 in which the filler is selected from glass fibre or carbon fibre.

Claim 11 (canceled)

Claim 12 (original): A structural reinforcing member according to Claim 1 in which the reinforcing member is made from a thermosetting resin.

Claim 13 (original): A structural reinforcing member according to Claim 1 in which the expandable material can be activated to both expand and to act as an adhesive when heated.

Claim 14 (original): A structural reinforcing member according to Claim 13 in which the expandable material can be activated at a temperature of a curing step in an electrocoat process.

Claim 15 (canceled)

Claim 16 (previously presented): A structural reinforcing member according to Claim 15 in which the expandable material is an adhesive material a foamable epoxy-base resin.

Claim 17 (original): A structural reinforcing member according to Claim 1 in which the expandable material is applied to at least a portion of the surfaces of the rigid reinforcing member that will be adjacent to two non-parallel surfaces of the interior surface of the hollow structural member.

Claim 18 (original): A structural reinforcing member according to Claim 17 in which the expandable material is applied over part of each of the top and bottom and the sides of the reinforcing member.

Claim 19 (original): A structural reinforcing according to Claim 1 in which the extensions comprise at least two ribs and the expandable material is provided between the ribs.

Claim 20 (original): A structural reinforcing member according to Claim 19 in which a series of pairs of ribs are intermittently provided along one or more of the surfaces of the reinforcing member.

Claim 21 (previously presented): A structural reinforcing member for reinforcing a hollow structural member comprising:

a pair of opposing rib mouldings extending the length of said structural reinforcing member, said pair of rib mouldings being integral with said structural reinforcing member and being formed of the same material as said structural reinforcing member;

unfoamed expansive adhesive material contained between said opposing ribs and said structural reinforcing member;

wherein the reinforcing member is an injection molded plastic and has an internal structure that is selected from cellular, honeycomb or ribbed;

wherein said unfoamed expansive adhesive material can be activated to both expand and to act as an adhesive when heated;

wherein said unfoamed expansive adhesive material is dry and not tacky to the touch prior to activation of said material;

wherein said structural reinforcing member further comprises at least one lug attached to said structural reinforcing member and locating said member within said hollow structural member when said structural reinforcing member is placed within said hollow structural member and said opposing rib mouldings approach an internal surface of the hollow structural member prior to activation of said material; and

wherein said opposing rib mouldings are bonded to said internal surface of said hollow structural member after activation of said material.

Claim 22 (original): The structural reinforcing member according to Claim 21 in which the exterior profile shape of said reinforcing member conforms substantially to the interior cross section of said hollow structural member.

Claim 23 (original): The structural reinforcing member according to Claim 21 in which the size of said reinforcing member including the expandable material is such that there is a clearance of not more than 1 cm between said opposing rib mouldings of said reinforcing member and said interior wall of said hollow structural member.

Claim 24 (original): The structural reinforcing member according to Claim 21 in which the expandable material can be activated at a temperature of a curing step in an electrocoat process.

Claim 25 (original): The structural reinforcing material according to Claim 23 in which the clearance is 2 to 10 mm.

Claim 26 (canceled)

Claim 27 (previously presented): The structural reinforcing member according to Claim 21 in which the reinforcing member is made from a polyamide that includes a fibrous filler.

Claims 28-31 (canceled)

Claim 32 (original): The structural reinforcing member according to Claim 21 in which the expandable material is applied over part of each of the top and bottom and the sides of the reinforcing member.

Claim 33 (previously presented): The structural reinforcing member according to Claim 21 wherein an external surface of the reinforcing member has opposite edges and the ribs are located between the opposite edges.

Claim 34 (previously presented): The structural reinforcing member according to Claim 21 wherein the structural reinforcing member has cross-section shape selected from an M-shape, a U-shape or a W-shape

Claim 35 (previously presented): A structural reinforcing member for reinforcing a hollow structural member comprising:

a plastic reinforcing member having an external surface;
a series of pairs of opposing ribs spaced apart along a length of the structural reinforcing member wherein each pair of ribs forms a groove therebetween and wherein each rib of the pairs of ribs extends transverse relative to the length of the reinforcing member and wherein each rib of the pairs of ribs is integrally molded of the same material as the reinforcing member;

unfoamed expansive adhesive material contained within the groove between the ribs of each pair of opposing ribs;

wherein the unfoamed expansive adhesive material can be activated to both expand and to act as an adhesive when heated;

wherein said unfoamed expansive adhesive material is dry and not tacky to the touch prior to activation of said material;

wherein the unfoamed expansive adhesive material is flush with a distal end of each rib for each pair of opposing ribs prior to activation;

wherein said structural reinforcing member further comprises at least one lug attached to said structural reinforcing member and locating said member within said hollow structural member when said structural reinforcing member is placed within said hollow structural member and each pair of opposing ribs approaches an internal surface of the hollow structural member prior to activation of said material;

wherein the structural reinforcing member includes a labyrinth of internal reinforcing ribs; and

wherein each pair of opposing ribs is bonded to said internal surface of said hollow structural member after activation of said material.

Claim 36 (previously presented): The structural reinforcing member according to claim 1 wherein the expandable material includes a first portion spaced laterally from a second portion with the at least one extension therebetween.

Claim 37 (previously presented): The structural reinforcing member according to claim 21 wherein the reinforcing member includes at least five ribs.

Claim 38 (previously presented): The structural reinforcing member according to claim 21 wherein the reinforcing member includes an additional pair of opposing rib mouldings extending the length of said structural reinforcing member, said pairs of rib mouldings being spaced apart laterally from each other.